

Roatan Island, Honduras, January, 1979, U.S. National Mus. Nat. Hist. No. 784487; Paratype—Length 22 mm, same depth, locality, and date as holotype, in my collection.

*Ecology:* The new species was found in sand underneath large coral boulders in 2 m of water near the shoreline. Other mollusks found with *Conus kulkulcan* included the gastropods *Morum oniscus* (Linnaeus, 1767), *Muricopsis schrammi* (Crosse, 1863), and *Vexillum dermestinum* (Lamarck, 1811), and the spinose polyplacophoran *Craspedochiton hemphilli* (Pilsbry, 1893).

*Etymology:* Named for Kulkulcan, feathered snake god of the Mayans. Like his nautical equivalent, Quetzalcoatl, Kulkulcan was often associated with the sea. Since Roatan was a Mayan trading center in precolumbian times, the taxon honors the indian sea god.

*Discussion:* At first glance, *Conus kulkulcan* would not be taken for a Caribbean species, so unusual is the color pattern. With the white coronated shoulder, blue-gray body color, black anterior tip, and deep blue aperture, the new species very closely resembles *Conus parvulus* Link, 1807 and *C. imperator* Woolacott, 1956 from the Indo-Pacific region. Small specimens of *C. biliosus* Röding, 1798 from India also resemble *C. kulkulcan*.

In the western Atlantic, only *Conus mus* Hwass, 1792, could possibly be confused with *C. kulkulcan*. The dark hairline flammules on the

spire (Figure 13) and the purple-blue aperture, however, easily separate the new species from the well-known and similarly colored *C. mus*. *Conus kulkulcan* appears to be related to the West Indian *Conus magellanicus* Hwass, 1792—*C. cardinalis* Hwass, 1792, species complex and is the only known Central American representative of this group of small, rock-dwelling cones.

#### ACKNOWLEDGMENTS

I would like to thank Mr. Robert Morrison, Sarasota, Florida, and Mr. Gary Magnotte, Pompano, Florida, for the generous donation of the type material of the new species. Special thanks are given to Mrs. Sally D. Kaicher, St. Petersburg, Florida, and Mr. Gonzalo Cruzat, Miami, Florida, for the excellent photographs.

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### LAEVICAULIS HAROLDI, A NEW VERONICELLID SLUG FROM NATAL, SOUTH AFRICA (GASTROPODA: PULMONATA)

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While collecting amphibians on December 23, 1977, in Durban, Natal Province, South Africa, Dr. Harold A. Dundee found some strange-looking organisms on living *Typha* leaves in an empty lot. He and a local herpetologist, Mr. Lynn Raw, originally thought they were lepidopteran larvae. Only after being collected did they extend the body and tentacles so as to be recognizable by me

as veronicellid slugs. I have worked with Veronicellidae for years and these are the most bizarre ones I have ever seen. Only six specimens could be found despite an intensive effort by all three of us. This author is indebted to Mr. Raw for taking us to that locality in the course of the day's collecting.

Pictures of the living slugs were taken im-

mediately. Upon return to the United States, I searched the literature but could not find any description of these veronicellids. Dissection revealed significant differences from other known species. Pictures were sent to Dr. A. C. van Bruggen now of the University of Leiden who had long worked in South Africa. He also had not seen slugs like them before. Therefore I have elected to describe these herein and name them in honor of their discoverer, Dr. Harold A. Dundee. Type specimens were deposited in the U. S. National Museum of Natural History in Washington, D. C.

*External description:* *Laevicaulis haroldi* n. sp. (Figs. 1: a, b, c, d). Four color phases were found. This mollusk can change to any of these phases. The most distinctive one is that seen in Fig. 1c. When the animal is contracted, it looks most like a lepidopteran larva. The other 3 color phases (Fig. 1, a, b, d) seem to be a part of a transition from dark-brown to cream color. Even when the organism is in the cream stage, the anterior end, including the tentacles and the posterior, remain dark as seen in Fig. 1a. In all color phases the animal retains a "wrinkled," finely banded, appearance. Upper tentacles are light-brown with dark-brown eyes in all phases. The lower ones appear grey. The hyponotum is smooth and cream colored in all. The sole is the same except that it tends to be somewhat transparent.

When contracted the hyponotum takes on a mottled appearance (cream and tan) and the sole remains as in the stretched condition thus mak-

ing it much more evident. The foot is typical veronicellid.

The measurements of the six specimens were these:

	<i>Notum</i> Length (mm)	Width (mm)	<i>L. W</i> index	<i>Hyponotum</i> Width (mm)	<i>Sole</i> Width (mm)
1.	88.9	9	9.8	3	4
2.	69.9	7	9.9	3	4
3.	57.1	6	9.5	2	3
4.	76.2	10	7.6	3	3
5.	50.8	5	10.1	2	3
6.	38.1	5	7.6	1.5	3

*Internal Description:* A dorsal incision revealed the anatomical arrangement shown to be that of *Laevicaulis* Simroth (see Forcart, Plate V, Fig. 8a, 1953). Diagnostic characteristics of this genus include a rounded anus situated submedially and the female genital pore located in the posterior half of the hyponotum. Also the anterior delimitation of the intestines is formed by a fold of the intestinal tract.

Two species of *Laevicaulis* are known from Durban: *Laevicaulis natalensis natalensis* (Krauss), *L. natalensis brauni* (Simroth) and *Laevicaulis saxicolus* (Cockerell). The difference between the two subspecies of *L. natalensis* is in the width of the sole as opposed to the hyponotum (wider in *L. n. natalensis* and narrower in *L. n. brauni*). The main difference between *L. natalensis* and *L. saxicolus* is that *L. natalensis* has one subdistal annular swelling on the verge (one of the most important diagnostic features of veronicellids) and *L. saxicolus* does not. It merely has a distal glans (Forcart, 1953).

Fig. 2a shows the penial complex of *L. haroldi* as it is seen through a dorsal incision after lifting the buccal mass up and to the left. The arrow on Fig. 2a shows the point at which the penial complex was lifted and flipped over to the left thus revealing the arrangement as shown in Fig. 2b. One can grasp the functional morphology easier in this view. The verge is housed in the sac and extends anteriorly through the genital opening during mating. Fig. 2c shows a dissected view of the verge in a contracted state inside of the penial sac. Fig. 2d shows the verge lifted from the sac.

*Discussion:* These new animals are unlike

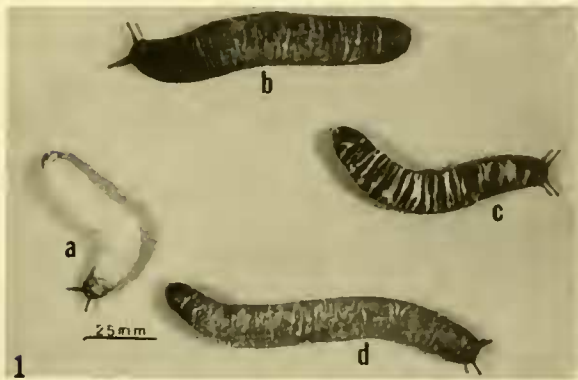


FIG. 1. *Laevicaulis haroldi*, a new species of veronicellid slug from South Africa. a. cream color phase; b. darkest brown phase; c. intermediate phase; d. tan phase.

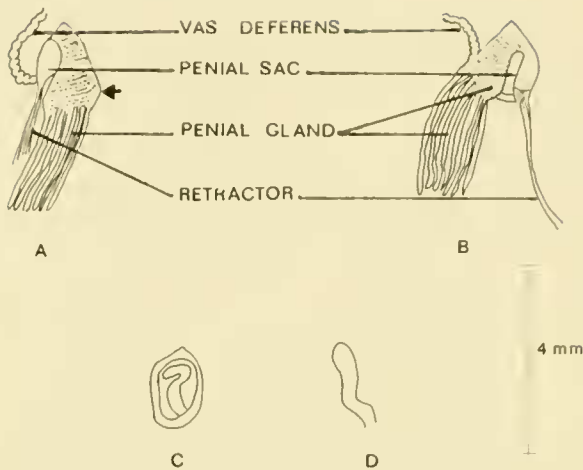


FIG. 2. Reproductive structures. a. penial complex as seen in dorsal incision after lifting the buccal mass up and to the left. b. penial complex after lifting up and to the left at the point shown by an arrow in Fig. 2a. c. dissected view of verge in penial sac. d. verge lifted from sac.

either of the two species known from the Durban area. External appearance is totally different, L/W index in adults is much greater than in either of them, and this new species seems to be longer overall (although not enough specimens of any of the three species have been measured to validate that statement). Hyponotum-sole measurements are closer to those of *L. natalensis*.

Dissection as shown in Fig. 2 reveals the reproductive anatomy to be closer to *L. natalensis* in that the verge appears essentially similar *except* it does not have the annular swelling.

I believe, therefore, that these specimens are members of a species heretofore unknown.

*Type locality:* The type locality of these slugs is a *Typha* marsh on Stamford Hill, Durban, Natal, South Africa. It is bounded by Walter Gilbert Road on the south, Unrgeni Road on the west, Athlone Drive on the north, and Snell Parade on the east. At the time of collection in December 1977 this was an empty lot which was used in part as a dump. The *Typha* marsh was on the north end. Recent correspondence (January 1979) from Mr. Lynn Raw indicated that the actual site where the slugs were found has now been bulldozed for a road. He further indicated that he has checked the type locality several times throughout the past year and has been unable to find any more slugs. The slugs were found about 1.5 m up on the *Typha* leaves and all appeared to be inactive. Air temperature was 30° C; wind was estimated at 25K.

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## PISIDIUM FALLAX (BIVALVIA: PISIDIIDAE) IN THE SOUTHWESTERN OZARK PLATEAUS

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#### ABSTRACT

*The freshwater fingernail clam, Pisidium fallax Sterki, is reported for the first time from the Interior Highlands of Arkansas and Missouri.*

*Pisidium fallax* Sterki (1896) has recently been identified from several drainages of the southwestern Ozark Plateaus. These collections represent a new regional record for this species. With the exception of a record from Alabama (Herrington, 1962), it had not been reported south of

the extent of maximum glaciation. West of the Mississippi River, it had not been collected south of Iowa (Herrington, 1962).

Numerous specimens have been recently collected from the basins of the Illinois and White rivers in Washington County, Arkansas, and the